

# LCLUC Training

Past and Future

# Past Training Programs

- Urumqi 2007
- Fedorovskoe 2007
- Tomsk 2008
- Almaty, Kazakhstan, 2009
  - Thematic analysis of Landsat
  - Fire monitoring/management
  - Landcover validation
  - MODIS
  - Water mgt in arid regions
  - Geospatial applications in LCLUC in Central Asia
  - Rangeland remote sensing

# Valmiera, Latvia Training Program 2010

## Quantitative Research Methods in Human Dimensions of Environmental Change within Eastern Europe

- 3-day Training Workshop prior to Tartu meeting (Aug 21 – 23)
- Graduate students, advanced undergraduates, professors, professionals
  - Experience level mixed
  - Training focused on beginning graduate level
- Participants from
  - Latvia
  - Finland
  - Russia
  - Estonia
  - Ukraine
  - Czech
  - USA
  - Cameroon (US student)

# Valmiera Training

- Lectures on theory and applications
- Research summaries, including local research
- Hands-on computer training with imagery and GIS
- Rainy canoe trip in Vidzeme Biosphere Reserve – with knowledgeable guide

# Valmiera Training Topics

- Latvian landscape change
  - University of Latvia Geography faculty
- New approaches to landcover mapping, change monitoring, and human impacts
- Optical remote sensing basics, data, applications
- AVHRR, MODIS, VIIRS data and applications
- Landsat image preprocessing
- Classification schemes, classification accuracy assessment
- Supervised, unsupervised classification basics
- Hyperspectral overview
- MISR
- Geostationary satellite data processing & land surface applications
- Geospatial methodologies relating social/economic data to remote sensing data
- Spatial modeling of agricultural abandonment in FSU countries, using geoprocessing and numerical modeling

# Student Feedback on Valmiera Training Session

## Online survey results (17 out of 35 responded)

- 60% of students thought the level was perfect  
30% thought it was a bit too hard  
10% thought it was a bit too easy
- On a scale of 1 to 5, students thought topics were this useful (1=not useful, 5=very useful)
  - 1 (not useful): 0
  - 2: 12%
  - 3: 30%
  - 4: 47%
  - 5: 12%
- Balance between lectures and hands-on training
  - Half found it a good balance
  - Half wanted more hands-on training

# Student Comments

## Valmiera Training

- Additional topics students wrote they would like to have seen:
  - More computer practicals/tutorials
  - More about Landsat archive and data
  - Computer program training requests on the following packages:
    - Geomatica
    - Beam
    - GLP
    - Open source
  - Spectral unmixing
  - Hydrology applications of remote sensing
  - Cartography
  - More social science applications
  - Land abandonment
- Other comments
  - Most were simply very complimentary
  - One request for more of specific instructors
  - A suggestion to spend more time on each topic; slow things down; a bit too much work
  - Request for group work and more interaction among students

# Future: LCLUC Training

- For whom?
  - Next generation of LCLUC scientists globally
  - Grad students (undergrads?), gov't agencies, NGO's, and private companies working on LCLUC issues
  - Others?
- Training, in addition to training received in:
  - Graduate degrees in varied fields
  - On-the-job training (gov't agencies, NGO's, private industry)



# Future: LCLUC Training Ideas

- More training sessions
  - Timing/length?
    - Summers best for students and instructors?
  - Broad or specific training?
  - Frequency?
  - More hands-on computer training?
  - Level(s)/background assumed?
  - Topics?

# Future: LCLUC Training Ideas

- Maintain updated reading lists for LCLUC sub-topics focused on training – textbooks, key journal articles, software manuals
- Development of (a) new LCLUC textbook(s)? Existing textbooks?
- Mentor program (inter-university)
- Student exchange/visiting student research programs
  - Programs would offer students from other universities a research training/internship experience (summertime or for a semester)
  - Programs would offer research labs extra student labor for processing, etc.
  - How would this be funded?
    - Student's home department/university
    - Research lab/university hosting student
    - Fellowships
    - NASA/NSF grants
- Partnering with private industry for training
  - Scanex, software companies, etc.
  - Learn from their experience
    - Partnering for workshops and training costs